

REMARKS

As a preliminary matter, Applicants note that although United States Patent No. 6,426,733 to Yamada was relied upon in the §103 rejection of Claims 10-12 and 18, this reference is not listed on either the Notice of References Cited (Form PTO-892) supplied by the Examiner or on the Information Disclosure Citation (Form PTO-1449) filed by Applicants. Accordingly, in order to make the Yamada reference of record, Applicants respectfully request that the Examiner cite this reference on a Form PTO-892, and that a copy of such form be supplied to Applicants' representatives at the address of record.

Claims 10-12 and 18 stand rejected under 35 U.S.C. § 103 as being unpatentable over United States Patent No. 6,58,357 to Dojo et al. in view of United States Patent No. 6,426,733 to Yamada. Applicants respectfully traverse this rejection.

Applicants respectfully submit that one of ordinary skill in the art would not have combined the teachings of Yamada with those of Dojo et al. to arrive at the present invention defined in independent Claim 10, as discussed more fully below. Further, Applicants respectfully submit that all of the features of the present invention, as defined in dependent Claim 18, are not disclosed or suggested in the cited references.

First, with regard to independent Claim 10, Applicants respectfully submit that one of ordinary skill in the art would not have combined the Yamada reference with the Dojo et al. reference in the manner suggested by the Examiner. As correctly acknowledged by the Examiner, the Dojo et al. reference lacks any disclosure that the upper surface of the main

wiring layer “has an average roughness of 3 nm or larger,” as defined in independent Claim 10. Accordingly, the Examiner relied upon the Yamada reference for this feature.

However, due to the many differences between the device of Yamada and that of Dojo et al., Applicants respectfully submit that one of ordinary skill in the art would not have modified Dojo et al. in view of Yamada in the manner suggested by the Examiner. First of all, Dojo et al. and Yamada relate to completely different types of display devices that operate using different processes, and that are manufactured by different processes. Dojo et al., and the present invention of Claims 10-12, relate to a liquid crystal display device in which a liquid crystal layer is held between two substrates. In contrast, Yamada relates to displays using emissive devices such as surface conduction electron emitting devices. Additionally, the device of Dojo et al. is preferably manufactured with a sputtering process and a patterning process using a resist, and the device of Yamada is preferably manufactured using screen printing, offset printing or inkjet printing. Accordingly, the issues and problems that arise with the device itself and manufacturing process of Dojo et al. are not necessarily the same as those that arise with the device and manufacturing process of Yamada.

Further, Applicants respectfully submit that without performing a special innovative process, such as the heating of the substrate described in the present application, one of ordinary skill in the art may not be able to obtain a main wiring layer made of Al or an Al alloy that has the claimed average roughness of 3 nm or larger, as defined in independent Claim 10. As correctly acknowledged by the Examiner, the Dojo et al. reference fails to disclose that the upper surface of the main wiring layer “has an average roughness of 3 nm or

larger,” as defined in independent Claim 10. Accordingly, the Examiner relied upon the Yamada reference for this feature. However, the relevant layer of Yamada is not an aluminum or aluminum alloy layer, as defined in Claim 10, but is instead an electroconductive paste comprised of a dispersion containing fine electroconductive particles in a viscous liquid (such as a polymer resin and solvent combination) with glass particles and a dispersing agent added to the paste. See *e.g.*, Yamada, column 5, line 4 through column 6, line 13. Further, the paste of Yamada is preferably screen printed (column 5, lines 21-24), instead of sputtered, as is the present invention and the device of Dojo et al. Accordingly, any teachings related to obtaining a certain average roughness for the electroconductive paste of Yamada do not necessarily apply to obtaining a certain average roughness for the aluminum or aluminum alloy layer of Dojo et al. Thus, for at least this reason also, Applicants respectfully request the withdrawal of this §103 rejection of independent Claim 10 and associated dependent Claims 11, 12 and 18.

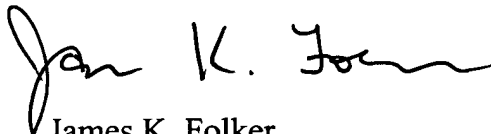
Additionally, with regard to dependent Claim 18, Applicants also separately traverse this rejection because the references of the proposed combination fail to disclose or suggest the claimed liquid crystal display that includes, *inter alia*, a “main wiring layer that includes grains without whiskers.” Neither Dojo et al. nor Yamada disclose or suggest that Al alloy main wiring layer 1110 of Dojo et al. includes “grains without whiskers,” as defined in dependent Claim 18. Instead of eliminating the hillocks and whiskers of the wiring layer 1110 of Dojo et al., Applicants believe that the refractory metal layer 1111 (which is disclosed as being Mo or other refractory metal (col. 9, lines 50-59)) merely covers the

hillocks and whiskers so that they have no effect on the layers above layer 1111 (such as insulator film 115). Further, although layer 1111 of Dojo et al. may not contain whiskers, this layer cannot be considered as part of Applicants' "main wiring layer" because it is not "made of Al or Al alloy," as defined in independent Claim 10. Accordingly, for these reasons also, Applicants respectfully request the withdrawal of this § 103 rejection of dependent Claim 18.

For all of the above reasons, Applicants request reconsideration and allowance of the claimed invention. Should the Examiner be of the opinion that a telephone conference would aid in the prosecution of the application, or that outstanding issues exist, the Examiner is invited to contact the undersigned.

Respectfully submitted,

GREER, BURNS & CRAIN, LTD.

By 

James K. Folker

Registration No. 37,538

October 10, 2005

Suite 2500
300 South Wacker Drive
Chicago, Illinois 60606
(312) 360-0080

Customer No. 24978

P:\DOCS\4319\69212\9D7820.DOC